

Power flow analysis and selection of emergency controls for reactive power overload of synchronous generators.

Nikolaev A. V., Ten E. A., Chapluk S. V., Edlin M. A.

The article discusses the calculating features of the electric power systems modes with synchronous generators overloading by excitation current and reactive power.

Shown, that:

- calculations of normal and post-emergency modes should be carried out without introducing restrictions on the output of reactive power by synchronous generators, but with fixing their overload;
- elimination of the excitation current and reactive power overload occurring in post-emergency modes of generator groups operating on common buses should be carried out by means of emergency controls.

Key words: power system, power flow analysis, overloading of synchronous generators by excitation current, overloading of synchronous generators by rotor current, emergency control.